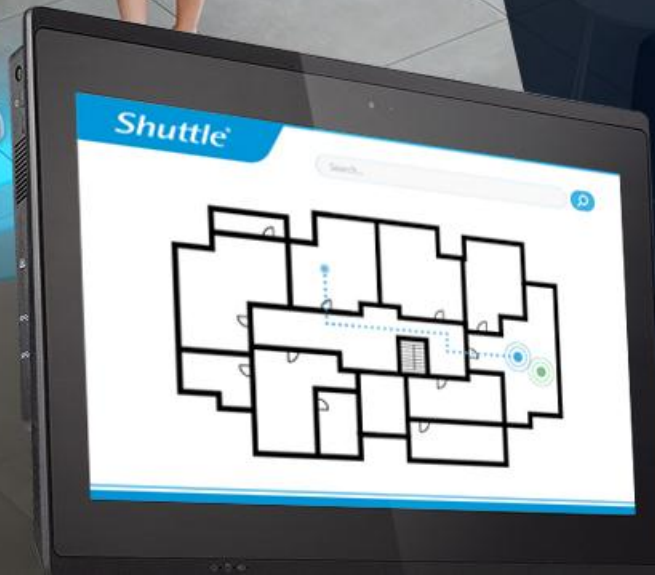


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Shuttle Indoor Area Positioning System



www.shuttle.com

AGENDA

- 1 Shuttle IPS Overview**
- 2 IPS Technology Comparison**
- 3 IPS Application**
- 4 Shuttle IPS Solution (Hardware/Management System)**

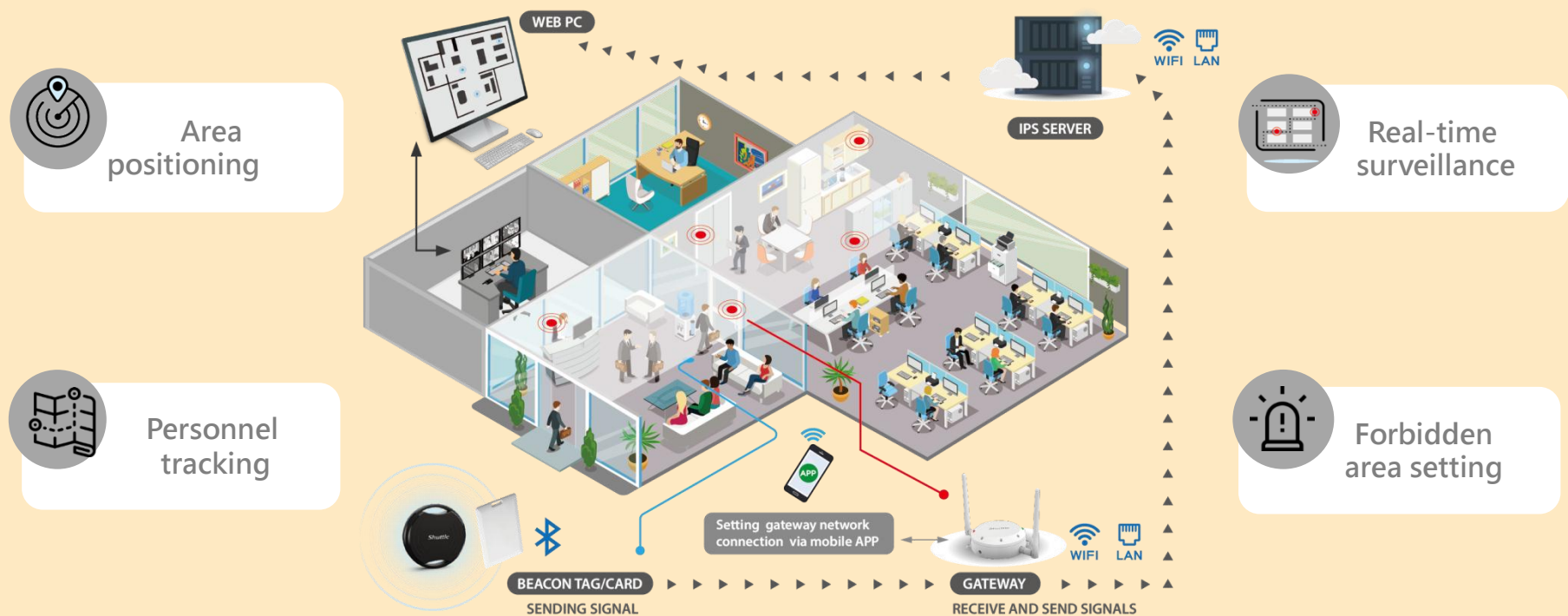
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Shuttle IPS (Indoor Positioning Solution) Overview

Shuttle IPS Overview

Combined with Bluetooth Low Energy (BLE) technology, reverse positioning structure, and web-based management system, Shuttle provides an integrated IPS solution to achieve area positioning, personnel tracking, real-time surveillance, and forbidden area setting for your business.



Shuttle IPS Overview

Structure

- Reverse positioning

Communication Technology

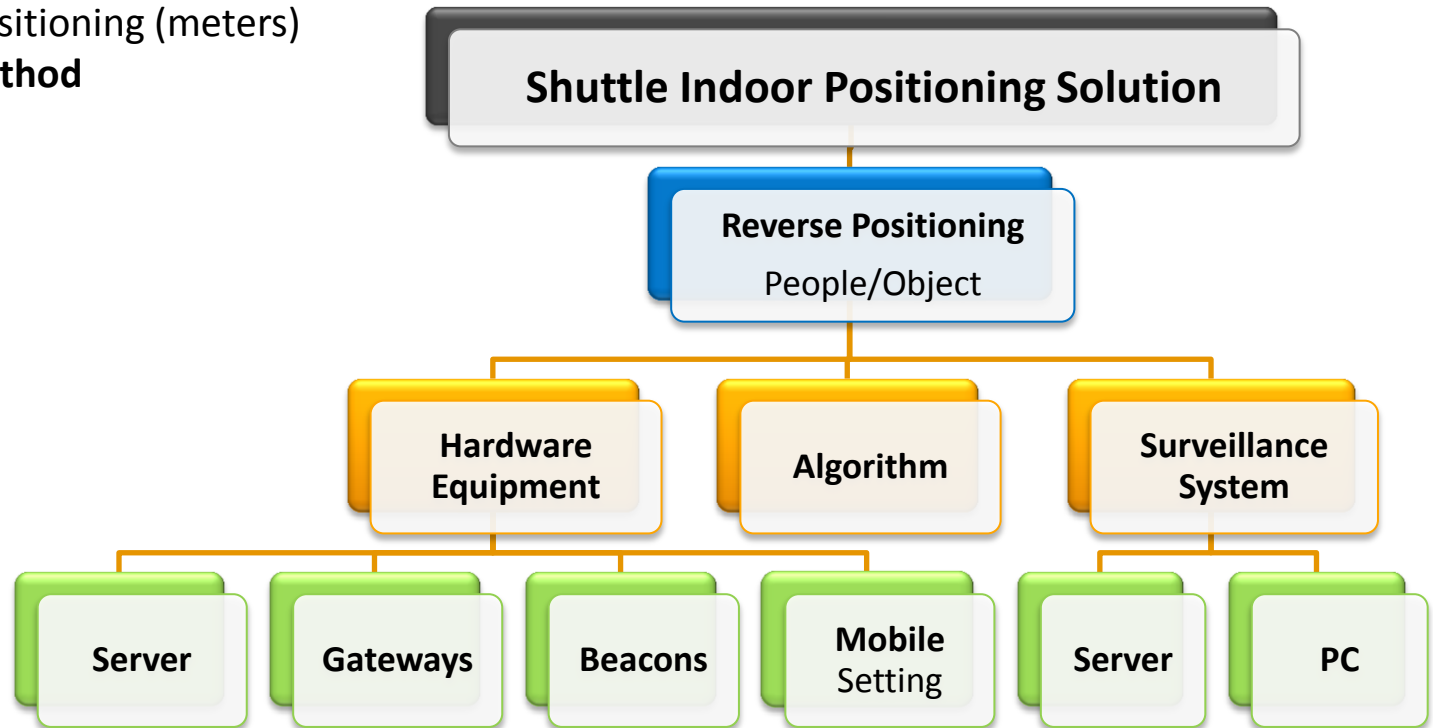
- Bluetooth Low Energy

Positioning Range

- Area positioning (meters)

Positioning Method

- RSSI



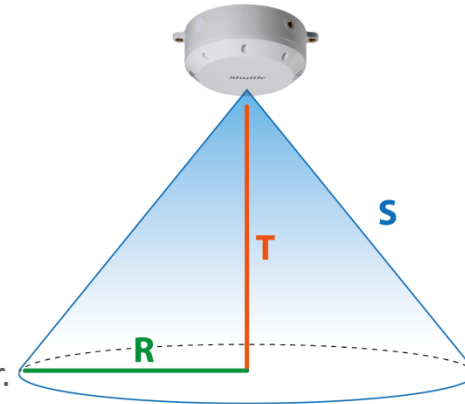
Shuttle IPS Overview

COVER RANGE

3.5meters (base on 2.5m heigh)

- r = cover range of gateway detects beacons.
- t = distance from gateway to ground.
- S = Cover range(r) will be changed depends on different height.

The cover range will be difference base on different TX power.



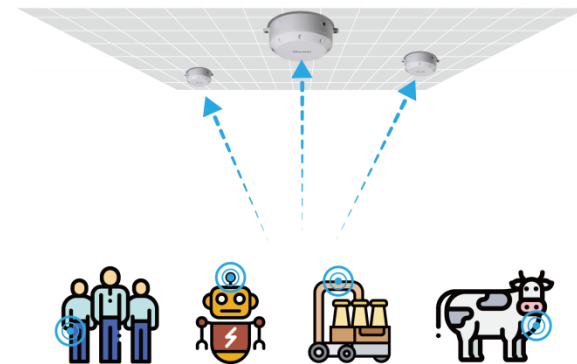
STRUCTURE OF INDOOR POSITIONING



POSITIVE POSITION

ORIENTATE "CELLPHONE"

Receive signal/info. via cellphone



REVERSE POSITION

ORIENTATE "ANY OBJECT"

Transmit signal/info.by beacon tag/card

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IPS Technology Comparison

IPS Technology Comparison

Indoor positioning system (IPS) enables locating the position of objects or people within buildings. Shuttle IPS is Bluetooth Low Energy (BLE) beacon-based solution, which is energy-efficient, easy to install and better cost.

	Bluetooth	Infrared Laser	RFID	Wi-Fi	ZigBee	UWB
Frequency	2.4G	N/A	125K/ hundreds M	2.4G	2.4G	3-10G
Accuracy	★★★★★ (Centimeter)	★★★★★ (Centimeter)	★★★ (Meter)	★★ (Meter)	★★ (Meter)	★★★★★ (Centimeter)
Power Consumption	★	★★★★	★★	★★★★★	★★	★★★★★
Cost (\$/100m ²)	★★ US\$5-10K	★★ US\$5-10K	★★★★ US\$10-15K	★★★★ US\$10-15K	★★★★ US\$10-15K	★★★★★ >US\$20K
Transmittance	★★★	★	★★	★★★	★★★	★★★★★
Integration with mobile device	★★★★★	★	★★★★	★★★★★	★	★
Shortage	<ul style="list-style-type: none"> • Collaboration by Software 	<ul style="list-style-type: none"> • Easy to be shaded • Only use via machine • Straight transmit 	<ul style="list-style-type: none"> • Short transmission distance • Low data transmission 	<ul style="list-style-type: none"> • Hard to setup • High power consumption 	<ul style="list-style-type: none"> • Signal is easy to be interruption • High power consumption 	<ul style="list-style-type: none"> • Expensive • Hard to setup • High power consumption

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IPS Application

Visitor Management

Track visitor location and details using the Shuttle IPS. It is also able to integrate with the access control system - BR06 to reach user-friendly management, which is more secure and workforce saving.



Corporate Security

Shuttle IPS allows you to set an area as a forbidden zone. Once someone barges in this area, the system alarm will be triggered immediately for more efficient security control.



Senior Care Center

With Shuttle IPS, you can easily manage people in the medical center or senior care center to avoid people lost or enter into the forbidden areas.



Meal Serving in Restaurant

With positioning and tracking technology, Shuttle IPS can integrating with the number plate and helps waiter to deliver meal to the right seat efficiently. It' s faster and more accurate.



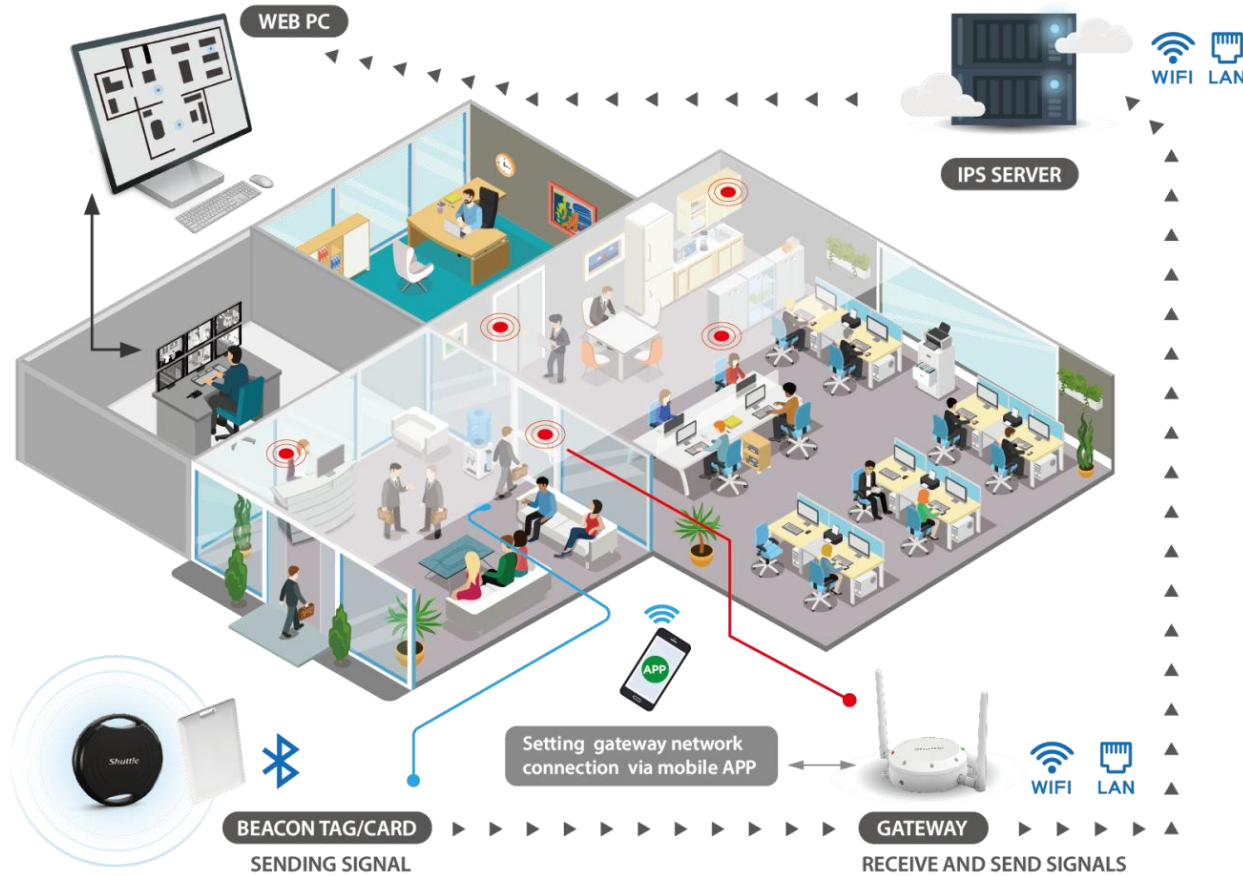
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Shuttle IPS Solution(Hardware/Management System)

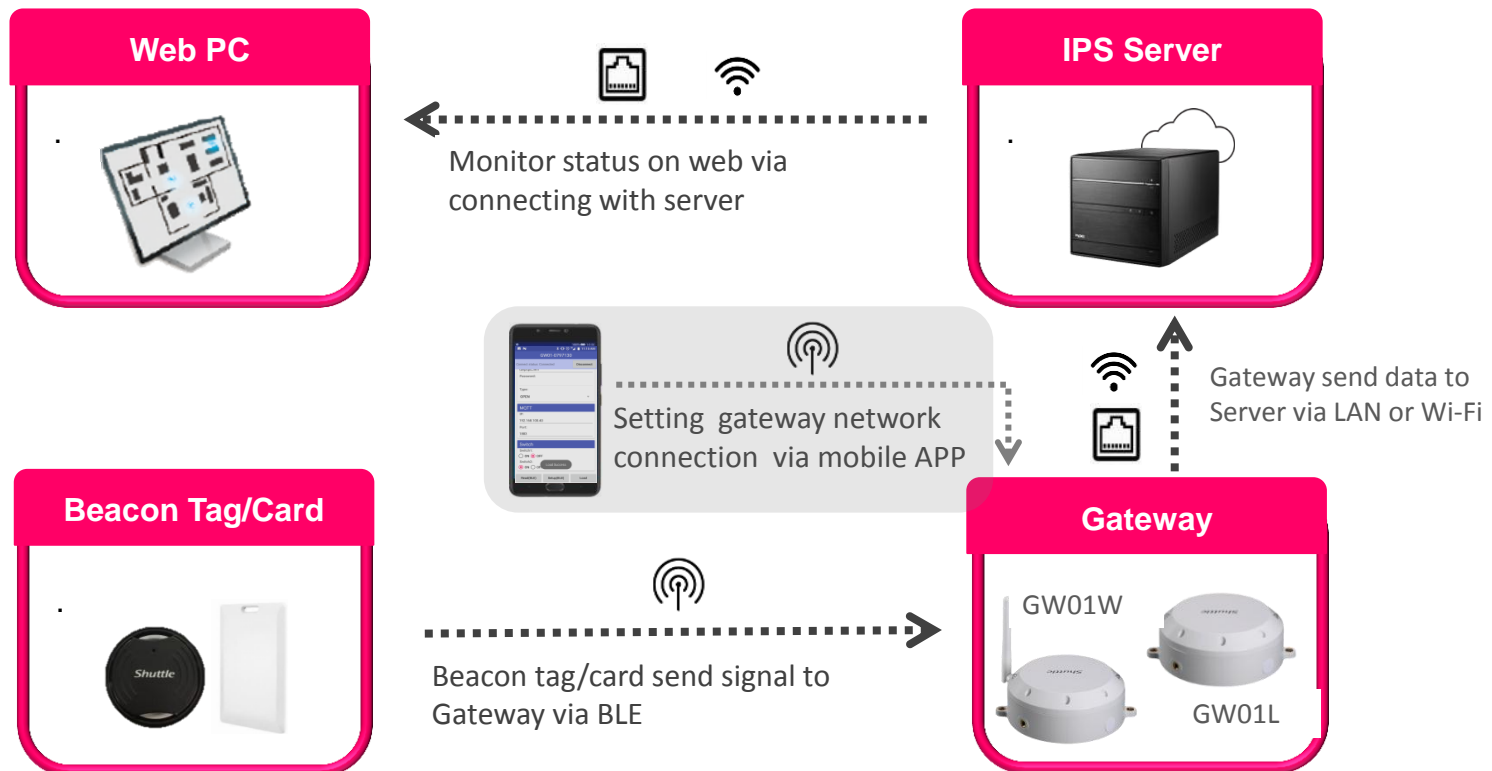
Shuttle IPS Solution

- What Shuttle provide is total solution including Beacon tag/card, Gateway and IPS server integration.



Shuttle IPS Solution

- You could choose Gateway with Wi-Fi or LAN connection depends on the application field and set-up Gateway network connection via mobile APP.
- You need to register the information of gateways and beacons on web PC.



Shuttle IPS Solution-Hardware

Web PC

For surveillance usage.
Need Wi-Fi or Ethernet to connect
the same network as server.



Server

CPU: Intel Core i5/i7 or upper
Graphic: Intel HD Graphic series
Memory: 16GB
HDD: 1TB (cent OS based)
LAN: Gigabit LAN



Gateway

Size: Ø107mm T=40mm
Weight: 140g
Signal: Bluetooth Low Energy.5.0
Transmit: Ethernet or Wi-Fi
Power: POE or 24W Adapter
Operating Temp.: -20-60 °C
Max. Beacon Quantity: 30pcs
Install Method: Drill hole, hanging
OTA update support.



Beacon Card

Size : 54 x 86 x 3.8mm
Weight : 16g
TX Power : -20dBm (adjustable)
Battery Life : 18~24m
IP Level : IP66



Beacon Tag

Size : Ø40mm T=12.5mm
Weight : 12g
TX Power : -12dBm (adjustable)
Battery Life : 6m
(CR2032, changable)



Mobile

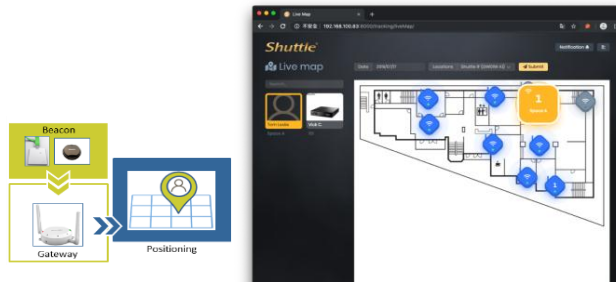
Android version: 8.0 or upper
For gateway setting
Mobile APP support android only



Shuttle IPS Solution-Management System

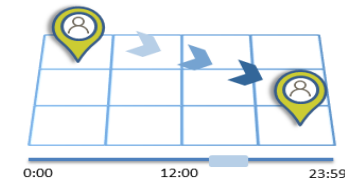
Target Locating

IPS can locate the target.



Personnel Tracking

We provide graphical UI, users can scroll timeline to get the footprint of personnel activities.



Heat Map Analysis

The heat map helps you to visually get the density of people staying in a certain area.



Security Monitoring

A notification is sent to the administrator when someone enters the forbidden area.



A modern glass-fronted building with a grid of windows reflecting other skyscrapers. The image is overlaid with several semi-transparent blue geometric shapes, including rectangles and parallelograms, some of which are tilted. The foreground shows a dark, textured pavement with a diamond pattern.

THANK YOU!

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